In the Claims:

1. (Amended under Article 19) A magnetostrictive torque sensor shaft comprising a magnetostrictive detection portion and an engaging portion for engaging a power transmission shaft, wherein the torque sensor shaft comprises a magnetostrictive material and comprises a paramagnetic layer having a content of retained austenite of at least 50 vol% at a surface of at least the engaging portion, but excluding the magnetostrictive detection portion.

2. (deleted under Article 19)

3. (Previously presented) The magnetostrictive torque sensor shaft according to claim 1, wherein a thickness of the paramagnetic layer is at least 300 μm.

4. (Currently Amended) The magnetostrictive torque sensor shaft according to claim 1 ~~or 3~~, comprising a ferromagnetic material.

5. (Original) The magnetostrictive torque sensor shaft according to claim 4, wherein the ferromagnetic material contains 3 to 30 wt% Ni.

6. (Currently Amended) A magnetostrictive torque sensor comprising the magnetostrictive torque sensor shaft according to ~~any of the claims 1 and 3 to 5~~ claim 1.

7. (Amended under Article 19) A method of manufacturing a magnetostrictive torque sensor shaft, the magnetostrictive torque sensor shaft comprising a magnetostrictive detection portion and an engaging portion for engaging a power transmission shaft, and containing 3 to 30 wt% Ni, comprising a step of carburization treatment on a surface of at least the engaging portion, but excluding the magnetostrictive detection portion of the torque sensor shaft, so as to form a paramagnetic layer containing retained austenite.

8. (Original) The method of manufacturing a magnetostrictive torque sensor shaft according to claim 7, wherein a carbon potential in the step of carburization treatment is at least 0.8 wt%.

9. (Currently Amended) The method of manufacturing a magnetostrictive torque sensor shaft according to claim 7 ~~or 8~~, comprising, prior to the step of carburization treatment, a step of anti-carburization treatment on the magnetostrictive detection portion, and after the step of carburization treatment, a step of removing anti-carburization treated portion to expose a magnetostrictive material on a surface of the magnetostrictive detection portion.

10. (New) The magnetostrictive torque sensor shaft according to claim 3, comprising a ferromagnetic material.

11. (New) A magnetostrictive torque sensor comprising the magnetostrictive torque sensor shaft according to claim 3.

12. (New) A magnetostrictive torque sensor comprising the magnetostrictive torque sensor shaft according to claim 4.

13. (New) A magnetostrictive torque sensor comprising the magnetostrictive torque sensor shaft according to claim 5.

14. (New) The method of manufacturing a magnetostrictive torque sensor shaft according to claim 8, comprising, prior to the step of carburization treatment, a step of anti-carburization treatment on the magnetostrictive detection portion, and after the step of carburization treatment, a step of removing anti-carburization treated portion to expose a magnetostrictive material on a surface of the magnetostrictive detection portion.